

ABSTRACT OF THE DISCLOSURE

The invention discloses a method for the preparation of a rare earth hydroxide powder in which, different from the conventional wet-process hydroxide precipitation method in an aqueous solution of a rare earth salt by the addition of an alkali, a powder of a rare earth oxide is brought into contact with a limited amount of water in the form of either liquid or vapor and kept in contact with water at a temperature of 30 to 200 °C. The thus prepared rare earth hydroxide powder is characterized by a small crystallite diameter not exceeding 40 nm and outstandingly low contents of impurity chlorine and nitrate ions originating in the starting rare earth salt in the hydroxide prepared by the conventional wet-process method. The inventive rare earth hydroxide powder is advantageous as a component ingredient or as an adjuvant in the ceramic compositions for the preparation of a sintered dielectric ceramic bodies in respects of the greater dielectric constant and smaller temperature dependency of the dielectric constant than similar ceramic bodies prepared from a conventional rare earth hydroxide or oxide.